

CITY OF MIAMI BEACH
Office of the City Manager
Letter to Commission No. _____

038-2005



To: Mayor David Dermer and
Members of the City Commission

Date: February 7, 2005

From: Jorge M. Gonzalez
City Manager

A handwritten signature in black ink, appearing to read "Jorge", written over the printed name.

Subject: TRAFFIC IMPACT STUDY FOR THE MERIDIAN PROJECT

After being brought to our attention by Commissioner Gross that the developer of The Meridian project at 2001 Meridian Avenue had not completed a Traffic Impact Study for such development, the developer was directed to conduct a study prior to completion of the project. The traffic analysis was completed, the developer was directed by City staff to make some changes and the final version has been reviewed and approved by our Public Works Department.

The Level III Traffic Impact Analysis concludes that there will be no change to the Level of Service (LOS) of Dade Boulevard and Meridian Avenue; however, there would be additional delay at the intersection of Dade Boulevard and Meridian Avenue that can be corrected by signal optimization. If necessary, once the project is completed, the City will request the County to make the appropriate traffic signal timing adjustment.

In summary, the Traffic Impact Study concludes that the levels of service are within the adopted City standard and standard for non-state roads and, therefore, the project does not contribute any significant traffic impact to the existing roadway capacity. Based on the foregoing conclusions, the Public Works Department has approved the study.

A copy of the Traffic Impact Study without the appendixes which contain the technical data is provided as attachment.

JMG:RCM\FHB\II

c: Robert C. Middaugh, Assistant City Manager
Fred H. Beckmann, Director of Public Works

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THE MERIDIAN



Level III- Traffic Impact Study

2001 Meridian Avenue
Miami Beach, Florida

By:



RICHARD GARCIA & ASSOCIATES, INC.

Revised
December 2004

ENGINEER' S CERTIFICATION

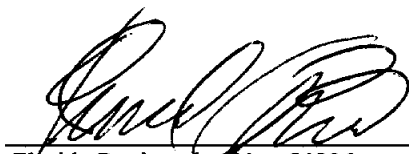
I, Richard Garcia, P.E. # 54886, certify that I currently hold an active Professional Engineers License in the State of Florida and am competent through education and experience to provide engineering services in the civil and traffic engineering disciplines contained in this report. In addition, the firm Richard Garcia & Associates, Inc. holds a Certificate of Authorization # 9592 in the State of Florida. I further certify that this report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions and recommendations made herein are true and correct to the best of my knowledge and ability.

PROJECT DESCRIPTION:

Level III TIS- The Meridian

PROJECT LOCATION:

2001 Meridian Avenue Miami Beach, FL.

 12/27/4

Florida Registration No, 54886 Date

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1.0 Introduction

The purpose of this study is to evaluate the associated traffic with the proposed development of the Meridian project located at the Northeast corner of Meridian Avenue and Dade Boulevard in the City of Miami Beach, Florida. Additionally, the traffic impacts to the adjacent roadways were evaluated for the existing and proposed conditions for the Daily and PM Peak Hour conditions.

This report follows the methodologies adopted by the Institute of Transportation Engineer's (ITE) Trip Generation, and Traffic Impact Studies Manual. Lastly, this report has evaluated the following:

- ◆ Trip Generation
- ◆ Traffic Distribution
- ◆ Traffic Assignment
- ◆ Traffic Counts
- ◆ Existing Condition Level of Service
- ◆ Proposed Condition Level of Service
- ◆ Conclusions & Recommendations

Lastly, this revised report addresses the comments made by the City of Miami Beach's traffic consultant.

2.0 Project Description / Location

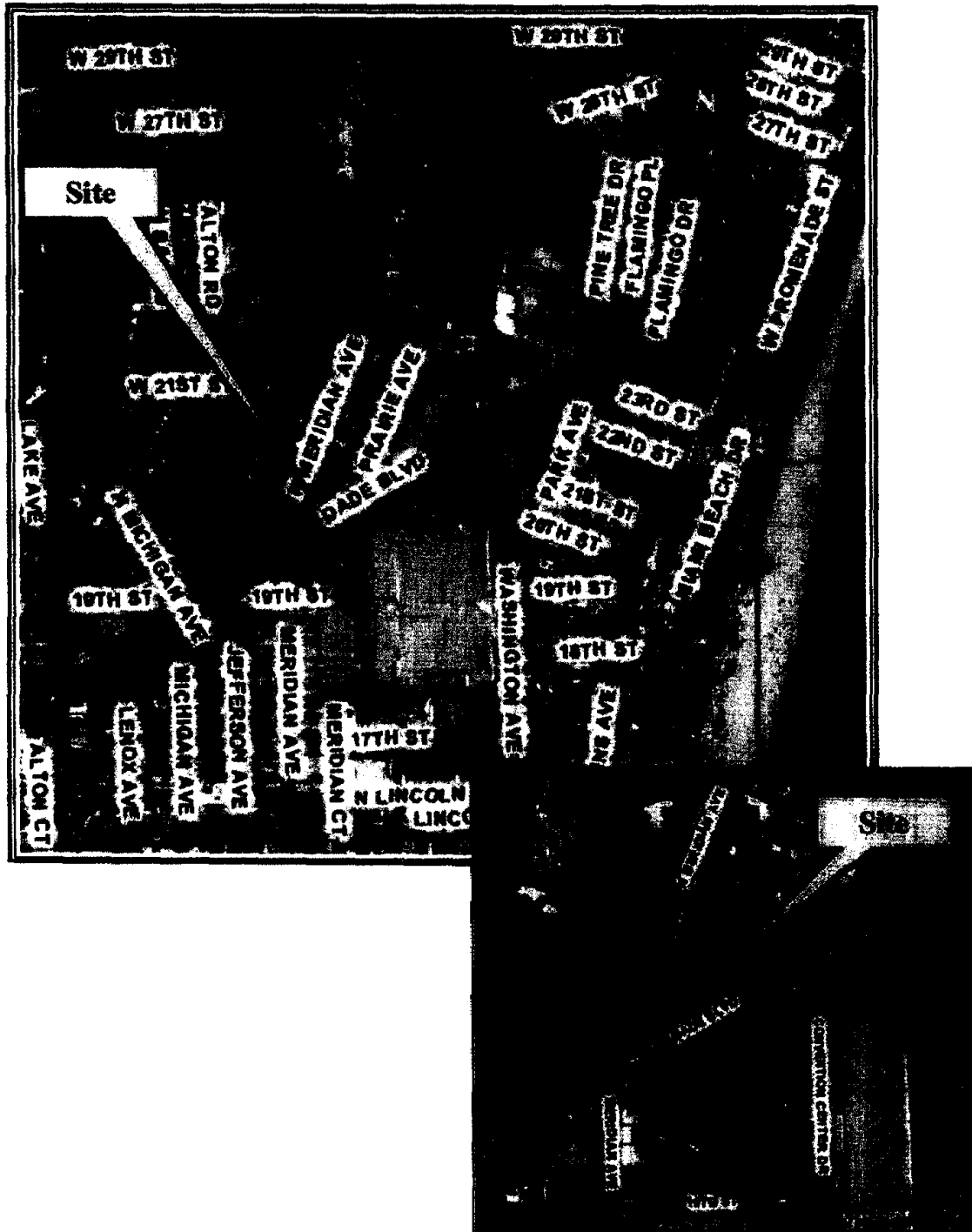
The subject project is located on the Northeast corner of Meridian Avenue and Dade Boulevard in the City of Miami Beach. Meridian Avenue is a two-lane undivided local road. Dade Boulevard is a four-lane local road with exclusive and shared left turn lanes.

The following land use, as identified by the Institute of Transportation Engineers (ITE), most closely resembles the proposed development. This land use is as follows:

- **Land Use 231: Low-rise Residential Condo w/ 111 DU (Dwelling Units)**

Previously the site was a vacant lot. Site access is provided via a full ingress/egress driveway which is located to the north of the property on Meridian Avenue. This driveway is located approximately 300 feet north of the referenced intersection, respectively. Figure 1 depicts the site's location map.

Figure 1: Location Map



3.0 Trip Generation

The trip generation characteristic for the subject project was obtained from ITE's Trip Generation Manual, 7th Ed. ITE's Land Use 231: Low-Rise Residential Condominium was used to determine the trip generation rates and totals for the proposed development.

The Trip Generation calculations results of the proposed improvements are summarized below. The ITE rates and percentages for both the Average Weekday Two-way Volume and PM Peak Hour Trips are included in Appendix A. Table 1 below summarizes the greatest traffic impact associated with the subject development, which occurs during the PM peak.

Table 1: Trip Generation

Land Use (LU)	Units	ITE LU CODE	PM PEAK HOUR TRIPS			
			ITE TRIP GENERATION RATE	IN	OUT	TOTAL
Low-Rise Residential Condo	111 DU	231	0.78	50	37	87
Gross Vehicle Trips				50	37	87

4.0 Traffic Distribution

The Traffic Analysis Zone (TAZ) for the subject development is TAZ 617 as assigned by the Metropolitan Planning Organization's (MPO). The County's TAZ are included in Appendix B.

The corresponding traffic distribution being assigned to the following directions are outlined in Table 2. Appendix B includes a TAZ Map and the corresponding Direction Distribution Summary for this zone.

Table 2: Cardinal Distribution

DIRECTION	DISTRIBUTION %
NNE	15.43
ENE	1.29
ESE	1.49
SSE	8.45
SSW	14.92
WSW	26.99
WNW	15.69
NNW	15.72
TOTAL	100.00

5.0 Traffic Assignment

The PM peak hour trips as well as the daily trips from Table 1 have been distributed and assigned to the existing adjacent roads. As evident from trip generation calculations, the PM peak hour represents the worse case. Table 3 was developed to depict the PM Peak Hour Assignments. Appendix C includes the ingress and egress traffic distribution with the corresponding assignments to the North, South, East and West for the PM peak hour and Daily Trips. Table 3 is the cardinal traffic assignment which are further grouped as indicated into the four primary quadrants. This assignment was further modified by reducing the loading to the North by 50% as instructed by the City.

Table 3: PM Peak Hour Traffic Assignments

PM Peak Trips			
DIRECTION	IN	OUT	Total
NNE	8	6	14
ENE	1	1	2
ESE	1	1	2
SSE	4	3	7
SSW	7	5	12
WSW	13	10	23
WNW	8	6	14
NNW	8	6	14
TOTAL	50	38	88

Assignment:

North 7+7=14

East 2+2=4

South 7+12=19

West 30+21=51



6.0 Traffic Counts

Traffic data collection consisted of 48-hour Automatic Traffic Recorders (ATR) also referred to as "tube counts". Additionally, peak hour traffic with the subject development and within the existing roadway network was during the PM peak hour. As such, a two-hour Turing Movement Count (TMC) was conducted at the intersection of Meridian Avenue and Dade Boulevard.

The following is a summary of the data collection efforts. Table 4 shows the Average Annual Daily Traffic on the two links analyzed. Similarly, Table 5 has the existing PM Peak Hour TMC's totaled by approach and intersection.

Table 4: AADT Calculations

ROADWAY		DIR	AVE ADT	AADT Calculation	AADT
NAME	AT				
EXISTING CONDITION (Seasonally Adjusted)					
Dade Blvd	West of Meridian Avenue	WB	10753	10860	24,000
		EB	12888	13016	
		LINK	23640	23876	
Meridian Avenue	North of Dade Blvd.	NB	747	755	1,700
		SB	935	945	
		LINK	1683	1699	

Appendix D contains Tables T-1, T-2 and T-3 which includes a summary of the counts taken and the volume adjustments made to the data collection as well as the proposed traffic volumes for the Daily and PM peak hour.

Appendix E contains the 48-hour Automatic Traffic Recorder (ATR) volume counts made at Dade Boulevard and Meridian Avenue in 15-minute intervals. This is often referred to as "Raw Data".

Table 5: Turning Movement Counts

INTERSECTION NAME	APPROACH	MOVEMENT	PM PEAK HR COUNT
MERIDIAN AVE & DADE BLVD.	SOUTHBOUND	SBR	246
		SBT	57
		SBL	249
		TOTAL	500
	WESTBOUND	WBR	325
		WBT	890
		WBL	20
		TOTAL	1235
	NORTHBOUND	NBR	92
		NBT	26
		NBL	3
		TOTAL	121
	EASTBOUND	EBR	3
		EBT	695
		EBL	144
		TOTAL	842
TOTAL			2698

7.0 Level of Service Analysis

Two Level of Service (LOS) Analyses were performed to assess the impacts of the proposed development. The first was a link LOS and the second was an intersection LOS. The link LOS was performed on Dade Boulevard and Meridian Avenue consistent with the data collection for the existing and proposed condition. Tables 6 and 7 depict these results, respectively.

Table 6: Existing Link LOS

ROADWAY		AADT	Jurisdictional Classification	LOS
NAME	AT			
EXISTING CONDITION (Seasonally Adjusted)				
Dade Blvd	West of Meridian Avenue	24,000	Non-State	D
Meridian Avenue	North of Dade Blvd.	1,700	Non-State	C

As evident from the results in these tables the link LOS does not change and remains at LOS D for Dade Boulevard and LOS C for Meridian Avenue for both the seasonally adjusted existing condition as well as the proposed conditions with the development's project traffic. Lastly, these LOS results are consistent with LOS standards for these types of roads.

Table 7: Proposed Link LOS (with project traffic)

Link	ROADWAY		AADT	Jurisdictional Classification	PROPOSED LOS
	NAME	AT			
1	PROPOSED CONDITION (With Project Traffic)				
	Dade Blvd	West of Meridian Avenue	25,900	Non-State	D
2	Meridian Avenue	North of Dade Blvd.	2,100	Non-State	C

Notwithstanding the link LOS analysis results, an intersection analysis was performed for the same conditions. Appendix F contains the signal timing obtained from Miami-Dade County Signal and Signs Division while Appendix G contains the Signal2000-Capacity Analysis Summary. The intersection most impacted by this development is the intersection of Dade Boulevard and Meridian Avenue. As such a PM peak hour analysis was performed for the following conditions:

- Seasonally Adjusted Existing Conditions
- Proposed Condition (Background & Project)
- Optimized Proposed Condition

The existing conditions yielded an LOS C with 33.2 seconds of delay. The proposed condition resulted in a LOS E+ with a corresponding delay of 59.0 seconds. Finally, while maintaining the existing 100 second cycle length, the Signal Optimization yielded an LOS D with a delay of 50.9 seconds.

Although all conditions meet the LOS standards for this roadway it is clear that sufficient capacity exist to accommodate this development. Therefore, it is not recommended that the signal timing be modified at this time. We merely ran the optimization condition to demonstrate that improvements can easily be made should the need arise.

8.0 Conclusion and Recommendations

The Trip Generation calculation results of the proposed development are 87 vehicles per hour (VPH) in the PM peak, and 870 trips during an Average Weekday. The Daily and Peak hour trips have been distributed and assigned to the adjacent roadways. The link Level of Service (LOS) analysis yielded no change from the existing condition to the proposed condition. That is, Dade Boulevard remained at LOS D and Meridian Avenue at LOS C for both the seasonally adjusted existing condition as well as the proposed conditions.

The intersection analysis of Dade Boulevard and Meridian Avenue had some additional delay that resulted in the LOS C for the existing condition to become LOS E+ for the proposed conditions. However, a signal optimization yielded an LOS D which is indicative of reserve capacity. That being said, it is not recommended that the signal timing be modified at this time. We merely ran the optimization condition to demonstrate that improvements can easily be made should the need arise. Moreover, the cycle length could be increased along this section of roadway to obtain additional capacity.

These Levels of Service are within the acceptable LOS standard for Non-State roads. As such, this project does not contribute any significant traffic



impact, as sufficient roadway capacity exist. Therefore, this development should be granted development approval.

